

Amendments to the Claims:

Please amend claims 1, 3-6, 8-22, 24, and 25 as follows. Please add new claims 27-33 as follows. The claims and their status are shown below.

1. (Currently Amended) A method of oxidising carbohydrates and/or carbohydrate derivatives having at least one primary alcohol group comprising contacting a reaction medium containing said carbohydrates and/or carbohydrate derivatives with a nitroxy radical mediator and a peroxidase enzyme, wherein characterised in that the initial reaction medium contains at least 10% by weight carbohydrates and/or carbohydrate derivatives, wherein in that the peroxidase enzyme is an oilseed peroxidase, and wherein in that a hydroperoxide and an alkali compound are gradually added to the reaction medium such that its pH is maintained at between 3.5 and 10.0.

2. (Original) A method according to claim 1, wherein the carbohydrates and/or carbohydrate derivatives are selected from the group consisting of starch, glucose, trehalose, maltooligosaccharides, isomalto-oligosaccharides, glucose syrups, maltodextrins, glycerol, sorbitol, and mixtures thereof.

3. (Currently Amended) A method ~~for oxidising carbohydrates~~ according to claim 1, wherein the pH is maintained between 3.5 and 8.0, ~~preferably between 4.0 and 7.5.~~

4. (Currently Amended) A method ~~for oxidising carbohydrate derivatives~~ according to claim 1, wherein the pH is maintained between 5.0 and 10.0.

5. (Currently Amended) A method according to claim 1 ~~any one of the preceding claims~~, wherein the ~~initial~~ reaction medium contains at least 40% by weight carbohydrates and/or carbohydrate derivatives.

6. (Currently Amended) A method according to claim 1 ~~any one of the preceding claims~~, wherein at least 10% of the primary alcohol groups are oxidised.

7. (Original) A method according to claim 6, wherein at least 50% of the oxidised primary alcohol groups are oxidised to carboxyl groups.

8. (Currently Amended) A method according to claim 1 ~~any one of the preceding claims~~, wherein the nitroxy radical mediator is a di-tert-nitroxyl compound, ~~preferably selected from 2,2,6,6-tetramethylpiperidin-1-oxyl (TEMPO) and derivatives or mixtures thereof.~~

9. (Currently Amended) A method according to claim 1 ~~any one of the preceding claims~~, wherein the ~~initial~~ reaction medium comprises a molar ratio of nitroxy radical mediators to primary alcohol groups of 1:4 to 1:150, ~~preferably of 1:40 to 1:70~~.

10. (Currently Amended) A method according to claim 1 ~~any one of the preceding claims~~, wherein the peroxidase enzyme is selected from the group consisting of: rapeseed peroxidase, palm oil peroxidase, groundnut peroxidase, soybean peroxidase and mixtures thereof.

11. (Currently Amended) A method according to claim ~~any one of claims 1 to 8~~, wherein the peroxidase enzyme is soybean or palm oil peroxidase.

12. (Currently Amended) A method according to claim 1 ~~any one of the preceding claims~~, wherein the ~~initial~~ reaction medium comprises 2000 to 540 000 Units of peroxidase enzyme, ~~preferably approximately 5000 Units of peroxidase enzyme~~, per mole of primary alcohol.

13. (Currently Amended) A method according to claim 1 ~~any one of the preceding claims~~, wherein the peroxidase enzyme is immobilised on a support.

14. (Currently Amended) A method according to claim 1 ~~any one of the preceding claims~~, wherein, for each mole primary alcohol, 0.5 to 4 mmol/min hydroperoxide are added to the reaction medium.

15. (Currently Amended) A method according to claim 1 ~~any one of the preceding claims~~, wherein the hydroperoxide is hydrogen peroxide or a source thereof.

16. (Currently Amended) A method according to claim 1 ~~any one of the preceding claims~~, wherein, for each primary alcohol group, 0.1 to 1.1 mmol/min alkali compound is added to the reaction medium.

17. (Currently Amended) A method according to claim 1 ~~any one of the preceding claims~~, wherein the alkali compound is sodium hydroxide.

18. (Currently Amended) A method according to claim 1 ~~any one of the preceding claims~~, wherein the reaction medium is maintained at a temperature of between 20 and 50°C, ~~preferably at about 25°C~~.

19. (Currently Amended) A method according to claim 1 ~~any one of the preceding claims~~, wherein the reaction time is from 20 to 55 hours, ~~preferably 45 to 52 hours~~.

20. (Currently Amended) A process for producing gluconic and/or glucaric acid comprising oxidising glucose according to the method of claim 1 ~~any one of claims 1-3 or 5-19~~.
21. (Currently Amended) A process for producing oxidised trehalose comprising oxidising trehalose according to the method of claim 1 ~~any one of claims 1-3 or 5-19~~.
22. (Currently Amended) A process for producing D-glucuronolactone comprising:
- a) oxidising trehalose according to the method of claim 1 ~~any one of claims 1-3 or 5-19~~;
 - b) optionally recovering the nitroxy radical mediator;
 - c) hydrolysing the oxidised product of the reaction of step (a);
 - d) lactonising the product of the hydrolysis reaction of step (c); and
 - e) crystallising the product of step (d).
23. (Original) A process according to claim 22, wherein at least 15% of said trehalose is converted to D-glucuronolactone.
24. (Currently Amended) A process according to claim 22 ~~or claim 23~~, wherein step (c) is carried out in the presence of sulphuric acid, HCl and/or a cation exchange resin.
25. (Currently Amended) A process according to claim 22 ~~or claim 23~~, wherein step (c) is carried out in the presence of an *O*-glycosyl compound hydrolysing enzyme, ~~preferably in the presence of exo-polygalacturonase~~.
26. (Original) A process according to claim 25 wherein the *O*-glycosyl compound hydrolysing enzyme is immobilised on a support.
27. (New) A process according to claim 22, wherein step (c) is carried out in the presence of exo-polygalacturonase.
28. (New) A method according to claim 1, wherein the pH is maintained between 4.0 and 7.5.
29. (New) A method according to claim 8, wherein the nitroxy radical mediator is 2,2,6,6-tetramethylpiperidin-1-oxyl (TEMPO) or derivatives or mixtures thereof.
30. (New) A method according to claim 1, wherein the reaction medium comprises a molar ratio of nitroxy radical mediators to primary alcohol groups of 1:40 to 1:70.
31. (New) A method according to claim 1, wherein the reaction medium comprises approximately 5000 Units of peroxidase enzyme per mole of primary alcohol.

32. (New) A method according to claim 1, wherein the reaction medium is maintained at a temperature at about 25°C.

33. (New) A method according to claim 1, wherein the reaction time is from 45 to 52 hours.